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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

065836.00005

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Name \_\_\_\_\_

Application Number:

10/557,607

Filed: November 22, 2005

First Named Inventor:

Fumio HASHIMOTO

Art Unit: 1638

Examiner: Keith O. Robinson

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

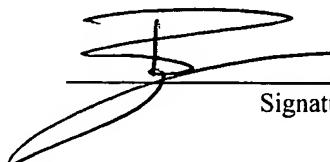
Note: No more than five (5) pages may be provided.

I am the

 Applicant/Inventor. assignee of record of the entire interest.

See 37 CFR 3.71. Statement under  
37 CFR 3.73(b) is enclosed (Form PTO/SB/96)

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Registration Number if acting under 37 CFR 1.34 \_\_\_\_\_

June 4, 2009

Date

NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

 \*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Fumio HASHIMOTO, *et al.*  
Serial No. 10/557,607  
Filed: November 22, 2005

Confirmation No.: 6196  
Group Art Unit: 1638  
Examiner: Keith O. Robinson  
Atty. Docket No.: 065836.00005

For: METHOD FOR CROSSING FLOWERING PLANTS BASED ON THEIR PIGMENT GENOTYPES

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

June 4, 2009

Sir:

Applicants hereby submit this Pre-Appeal Brief Request for Review (“PABRR”) of the final rejections of claims 1-7 and 12-13 in the above identified application. Claims 1-7 and 12-14 were finally rejected in the Final Office Action dated February 4, 2009 (“Office Action”). Applicants filed a Response to the Office Action on March 24, 2009 (“Applicants’ Response”), cancelling claim 14 without prejudice or disclaimer. The Office issued an Advisory Action dated April 30, 2009 (“Advisory Action”). Applicants hereby appeal these rejections and submits this PABRR. A Notice of Appeal is timely filed concurrently herewith.

Applicants respectfully submit that the cited references fail to disclose or suggest every feature recited in claims 1-7 and 12-13, rendering the rejections clearly erroneous. Applicants respectfully request reconsideration of the arguments submitted in Applicants’ Response, and included herewith, and submit that claims 1-7 and 12-13 are in condition for allowance.

The Office Action rejected claims 1, 3-4, and 6-7 under 35 U.S.C. §102(a) as allegedly anticipated by Uddin. The Office Action further rejected claims 1-7 and 12-14 under 35 U.S.C. §103(a) as being allegedly unpatentable over Oud, Raamsdonk, and Griesbach. Applicants respectfully submit that the aforementioned claim rejections are in clear error; and therefore, respectfully request withdrawal of the claim rejections for at least the reasons discussed below.

**Clear Error: “wherein five multiple alleles, H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, H<sup>Z</sup>, and H<sup>O</sup> control hydroxylation at 3'-position, hydroxylation at 5'-position, hydroxylation of 3',5'-positions, hydroxylation at 3'- and 5'-positions, and hydroxylation of 5'-, and 3',5'-position, respectively,” is not disclosed in Uddin, Oud, Raamsdonk and/or Griesbach.**

Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in Uddin. In particular, Uddin fails to disclose or suggest, at least, “wherein five multiple alleles, H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, H<sup>Z</sup>, and H<sup>O</sup> control hydroxylation at 3'-position, hydroxylation at 5'-position, hydroxylation of 3',5'-positions, hydroxylation at 3'- and 5'-positions, and hydroxylation of 5'-, and 3',5'-position, respectively,” as recited in claim 1 (emphasis added).

The Advisory Action cited page 51, last paragraph, and page 53, first to eighth paragraphs, of Uddin to allege that Uddin discloses the aforementioned claim features. A review of these passages in Uddin in relation to the entirety of Uddin demonstrates that Uddin fails to disclose or suggest every element recited in claim 1.

Uddin is directed to the production of new variants of flower color for creating flowering plants by predicting flower colors on the basis of four pigment genotypes, H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, and H<sup>O</sup>. Based on the genotypes described in Uddin, only 16 pattern combinations are possible (See Uddin, Abstract, at least page 52: Determination of four Alleles H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, and H<sup>O</sup>).

Whereas, claim 1 recites a method for creating a new flower color using five pigment genotypes, H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, H<sup>Z</sup>, and H<sup>O</sup>, providing the possibility for 25 pattern combinations. Hence, certain embodiments of the invention provide for a fifth allele H<sup>Z</sup>, not disclosed in Uddin. Contrary to the Advisory Action’s allegations, Uddin, at page 51, last paragraph, and at page 53, first to eighth paragraphs, fails to disclose or suggest the use of a fifth allele, H<sup>Z</sup>. Furthermore, Uddin explicitly describes that only four alleles are used in the production of new variants of flower color (*Id.*). Thus, Uddin fails to describe the fifth allele, H<sup>Z</sup>. Accordingly, Uddin fails to disclose or suggest every element recited in claim 1.

Furthermore, assuming *arguendo* that Oud could be combined with Raamsdonk and Griesbach, the combination of Oud, Raamsdonk, and Griesbach would fail to disclose or suggest, at least, “wherein five multiple alleles, H<sup>T</sup>, H<sup>F</sup>, H<sup>D</sup>, H<sup>Z</sup>, and H<sup>O</sup>, control hydroxylation at 3'-position, hydroxylation at 5'-position, hydroxylation of 3',5'-positions, hydroxylation at 3'- and

5'-positions, and hydroxylation of 5'-, and 3',5'-position, respectively," as recited in claim 1 (emphasis added), and similarly recited in claim 2.

The Advisory Action repeated the arguments presented in the Office Action without addressing each argument presented in Applicant's Response.

Each of Oud, Raamsdonk, and Griesbach describe expression (biosynthesis) of an anthocyanidins pigment(s) utilizing a combination of independent dominant/recessive genes *according to Mendel's Law of Inheritance* ("Mendel's Law"). One of ordinary skill in the relevant art would have understood that the concept of an anthocyanidin synthesis pathway utilizing a combination of independent dominant/recessive genes according to Mendel's Law, as described in Oud, Raamsdonk, and Griesbach, is completely different from a process utilizing multiple alleles, *i.e.*, 5 alleles, not in accordance with Mendel's Law, as provided in certain embodiments of the invention.

For example, Oud describes an anthocyanidin biosynthesis pathway using Ht/ht and Hf/hf genes. Ht/ht is a dominant/recessive gene which expresses a Cyanidin pigment. Hf/hf is a dominant/recessive gene which expresses a Cyanidin pigment and a Delphinidin pigment. These genes exist, but are not alleles. Oud fails to describe any contribution of genes. In fact, one of ordinary skill in the art would have concluded that there are some inconsistencies in the description in Oud between the actual results and the combination of genotypes.

For instance, the genotype AnAnhthfhfflfl showing a flower color of RL01 (see 4<sup>th</sup> line from the material) can be found on Table 2, 178. According to Table 2, cya (Cyanidin) and del (Delphinidin) are contained in small amounts. This is incompatible with the genotype hthfhf that is a recessive gene and would never express these pigments. It can be understood therefrom that it is difficult to precisely predict the expressing anthocyanidin pigments utilizing the combination of independent dominant/recessive genes.

AnAnHtHthfhfflfl described in Oud has a possibility to express Pelargonidin and Delphinidin pigments at the same time. However, AnAnHtHthfhfflfl does not express Pelargonidin and Delphinidin pigments at the same time.

As described above, it is clear that anthocyanin biosynthesis pathway in Oud utilizing the combination of independent dominant/recessive genes is completely different from that utilizing the multiple alleles not accorded with Mendel's law of inheritance as in the claimed invention.

Consequently, it is impossible to derive the anthocyanidin biosynthesis pathway of the claimed invention utilizing the multiple alleles from Oud's pathway only disclosed in the pathway utilizing the combination of the independent dominant/recessive genes.

Also, it can be considered that AnAnHtHthfhfflf which is the combination of genotype for expressing Pelargonidin, Cyanidin, and Delphinidin pigments at the same time, but such a combination has not yet been reported until now. In other words, the genotype utilized in the claimed invention is characterized in the fact that the mechanism for expressing anthocyanidin which can be never expected from the combination of the independent dominant/recessive genes, and that it can precisely predict the expressing anthocyanidin pigments due to the combination of alleles. Specifically, it is very difficult to find the anthocyanidin biosynthesis pathway of the claimed invention utilizing multiple alleles not accorded with Mendel's law of inheritance (dominance).

Accordingly, even if the prediction of flower color from the expressing anthocyanidins has been known, it is very difficult to derive the claimed invention from Oud which cannot predict expressing anthocyanidin pigments in a precision manner.

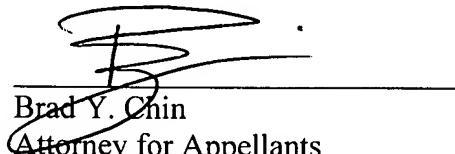
Raamsdonk and Griesbach fail to cure the deficiencies of Oud. Raamsdonk describes -dfr/-Ht/-Hf as genes for expressing anthocyanidin pigments. DFR/dfr is an independent dominant/recessive genotype that controls an anthocyanine biosynthesis gene. Ht/ht is a dominant/recessive gene that expresses a Cyanidin pigment. Hf/hf is a dominant/recessive gene that expresses a Delphinidin pigment. Accordingly, Raamsdonk fails to describe an expression of anthocyanidins pigments using *five multiple alleles*,  $H^T$ ,  $H^F$ ,  $H^D$ ,  $H^Z$ , and  $H^O$ . Similarly to Oud, Griesbach describes an expression of anthocyanidins pigments utilizing a combination of independent/recessive genes, whereby Ht/ht used therein is a dominant/recessive gene that expresses a Cyanidin pigment and a Delphinidin pigment. Mf/mf described in Griesbach is a dominant/recessive gene that controls the methylation of a hydroxyl group of a B ring of flavanoid. Specifically, Mf/mf is a dominant/recessive gene that biosynthesizes Peonidin, Petunidin, and Malvidin from Cyanidin and Delphinidin. Accordingly, Oud, Raamsdonk, and Griesbach, whether taken individually or in combination, fail to disclose or suggest, at least, "wherein five multiple alleles,  $H^T$ ,  $H^F$ ,  $H^D$ ,  $H^Z$ , and  $H^O$ , control hydroxylation at 3'-position, hydroxylation at 5'-position, hydroxylation of 3',5'-positions, hydroxylation at 3'- and 5'-

positions, and hydroxylation of 5'-, and 3',5'-position, respectively," as recited in claim 1 (emphasis added), and similarly recited in claim 2.

Although the clear errors are submitted with respect to the rejections presented for claims 1 and 2, the same clear errors exist with respect to each of the rejections of claims 3-7 and 12-13. Accordingly, the Office Action's rejections of claims 1-7 and 12-13 under 35 U.S.C. §102(a) and §103(a) based on Uddin, Oud, Raamsdonk and/or Griesbach are in clear error for at least the reasons discussed above. Therefore, claims 1-7 and 12-13 should be in condition for allowance. Accordingly, these rejections should be summarily withdrawn.

Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested. In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Notice of Appeal  
Petition for Extension of Time  
PTO/SB/33 Form  
Change of Entity Status  
Check No. 20761